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EXAMINER	
AMINZAY, SHAIMA Q	

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2618	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/924,723	MIZUGUCHI, HIRONORI	
	Examiner	Art Unit	
	Shaima Q. Aminzay	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 August 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This office action is in response to applicant's amendment/remarks filed July 10, 2007.

Response to Arguments

1. Response to applicant's argument with respect to objected claim 1-17 is moot as the amendment to the claims meets the requirements, therefore, Claim Objections with respect to claims 1-17 withdrawn.

2. Applicant's arguments with respect to the rejected claims 1-42 under Claim Rejections-35 U.S.C. 103(a) have been fully considered, but they are not persuasive.

Applicant argues (Remarks pages 2-5) that Larijani in view of Walsh do not teach the followings:

"*detecting quality deterioration of radio communication with mobile stations*".

Examiner disagrees, Larijani clearly teaches in a CDMA system the transmission power control with base station transmission to multiple mobile units (stations), and the signal quality of the radio communication with mobile units (stations) is being detected (e.g. signal to interference ration, S/I), the transmission interference that occurs between the base station and the mobile units are being detected for interference effecting the quality

of the signals *(e.g., Fig 1-3, cl 4, ln 44-53, 66-67, cl 5, ln 1-17, cl 6, ln 54-67)*, however, Larijani does not specifically uses the term "deterioration", for clarity, the second reference is being introduced, and that is why, the claims are being rejected under 103(a) Rejections. In related art dealing with mobile communication transmission in a CDMA system with transmission power control, Itoh teaches the quality deterioration of the radio communication (see action below).

"*detecting quality deterioration of a communication state of radio communication between said base station and said mobile stations*". Examiner disagrees, Larijani clearly teaches in a CDMA system the transmission power control with base station transmission to multiple mobile units (stations), and the signal quality of the radio communication with mobile units (stations) is being detected (e.g. signal to interference ration, S/I) that is detecting the communication state such as communication parameters detection and adjustment (e.g. S/I, power control command), (*e.g., cl 4, ln 66-67, cl 5, 1-17, cl 6, 54-67, cl 7, cl 8, 22-29, cl 10, 64-67),* however, Larijani does not specifically uses the term "deterioration", for clarity, the second reference is being introduced, and that is why, the claims are being rejected under 103(a) Rejections. In related art dealing with mobile communication transmission in a CDMA system with transmission power control, Itoh teaches the quality deterioration of the radio communication (see action below).

"*a receiver which demodulates transmission signals transmitted from plural mobile stations; a communication state monitor, coupled to said receiver, which detects a deterioration of a communication state of radio communication between said base station*

and the plural mobile stations". Examiner disagrees, Larijani clearly teaches in a CDMA system the transmission power control with base station (Fig. 1), the receiver demodulate (12) transmission signals that are being received from multiple mobile units in the CDMA system and the combined control processor (52), Maximum Selector (64), and the Integrator (60) are monitoring the communication state of transmission that are connected to the receiver, and detect the communication transmission parameters that is the state of the communication between the base station and the mobile units *(e.g. cl 4, ln 66-67, cl 5, 1-17, cl 6, 54-65*), and further, this is well known in the art that in CDMA system a base station transmits to plurality of mobile station, and when signals are received by the base station receiver they are being demodulated and next the demodulated signals are being monitored and the calculations are being followed for signals quality determination, however, Larijani does not specifically uses the term "deterioration", for clarity, the second reference is being introduced, and that is why, the claims are being rejected under 103(a) Rejections. In related art dealing with mobile communication transmission in a CDMA system with transmission power control, Itoh teaches the quality deterioration of the radio communication (see action below).

"*a receiver which receives, from the base station, a transmission power control signal directing to decrease a power of the signal to be transmitted to the base station in the case where a deterioration of a communication sate of radio communication between the base station and the plural mobile stations is detected at the base station".* Examiner disagrees, Larijani clearly teaches in a CDMA

system the transmission power control with mobile station receives from the base station the power control command (signal) to adjust it's power transmission such as increasing or decreasing accordingly, and if the signal quality is affected by the interference (S/I) and the signal quality is degraded, then the mobile units will have to increase it's power *(e.g., cl 1, ln 7-11, 35-46, 62-67, cl 4, ln 66-67, cl 5, ln 1-3, cl 11, ln 29-44, cl 3, ln 6-13),* and further, this is well known in the art that in CDMA system a base station transmits to plurality of mobile units, the transmission power is being controlled by the base or the mobile units, and the mobile unit or base station depend on which controls power, sends the power control command to adjust it's power accordingly to improve transmission quality, however, Larijani does not specifically uses the term "deterioration", for clarity, the second reference is being introduced, and that is why, the claims are being rejected under 103(a) Rejections. In related art dealing with mobile communication transmission in a CDMA system with transmission power control, Itoh teaches the quality deterioration of the radio communication (see action below).

Larijani in view of Itoh obviate applicant's invention, as discussed in below office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole

would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-42 are rejected under 35 U.S.C. 103(a) as being anticipated over Larijani (Larijani et al., U. S. Patent 6,603,746) in view of Itoh (Itoh et al., U. S. Patent 6,418,321).

Regarding claim 1, Larijani discloses a base station of a mobile communication system *(e.g., Fig. 1-3, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, cl 11, ln 29-44),* comprising: a communication monitor circuit for detecting quality *[deterioration]* of radio communication with mobile stations *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, the control processor (52), Maximum Selector (64), Integrator (60), Statistical Power control (54), detecting, evaluating and adjusting the radio communication quality (Communication monitor circuit) with the mobile stations)*, wherein: said communication monitor circuit comprises: a monitor unit for monitoring a communication state of said radio communication *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, the control processor (52), Maximum Selector (64), Integrator (60), detecting and evaluating the radio communication quality (Communication monitor) with the mobile stations)*, a adjusting unit coupled to said monitor unit for judging whether said communication state monitored by said monitor unit is worse than a predetermined state *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65, cl 9, ln 9-67, cl 11, ln 29-44, Statistical Power Control (adjusting unit) connected to the*

Communication Monitor to adjust and calculate the communication parameters (determining the state) considering the predetermine values of the communication state parameters), and a notifying unit coupled to said adjusting circuit for notifying an external circuit of said quality *[deterioration]* when said adjusting circuit judges that said communication state is worse than said predetermined state *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, cl 9, ln 9-67, cl 11, ln 29-44, the control processor (52), Maximum Selector (64), Integrator (60), Statistical Power control (54), the processor notifying Statistical Power Control (adjusting unit) of detraction of quality and being greater or less than the predetermine values that is worse than the predetermined value).*

Larijani does not specifically teach the deterioration term, however, Larijani teaches the detecting and measuring the interference *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67 =, cl 7, ln 1-17, cl 8, ln 22-44, cl 9, ln 9-67, cl 11, ln 29-44, the power controller detects the quality of signal by measuring the interference).*

In a related art dealing with mobile communications transmission power control *(see for example Figures 1, 5, 7, 9),* Itoh teaches the quality deterioration *(see for example Figures 1, 5, 7, and 9, cl 1, ln 6-11, ln 31-39, cl 2, ln 22-36, cl 4, ln 48-67, the detection of quality degradation (deterioration)).*

It would have been obvious to one of ordinary skill in the art at the time invention was made to have included Itoh's deterioration into Larijani's mobile communication power control system to provide the mobile communication system transmission power with "minimize interference between the mobile stations" *(Itoh, cl 1, ln 24-26, cl 9, ln 34-36).*

Regarding claim 6, Larijani discloses a base station of a mobile communication system *(e.g., Fig. 1-3, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, cl 11, ln 29-44, the communication system with base station and a mobile station)* comprising: receivers for demodulating transmission signals transmitted from said mobile stations to produce demodulated signals *(see for example, Figure 1, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, the receivers and modulators receiving signals from the mobile stations and outputting modulated signals)*, signal-to-noise ratio determining circuits coupled to said receivers respectively for determining signal-to-noise ratios of said demodulated signals *(see for example, Figure 1, cl 3, ln 13-33, cl 4, ln 44-46, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, the control processor (52), Maximum Selector (64), Integrator (60), Statistical Power control (54) are connected, the received signal is modulated and the signal-to-interference (signal-to-noise) ratio (58) is being determined),* transmission power control bit generators coupled to said signal-to-noise ratio determining circuits respectively for generating said transmission power control bit signals based on signal-to-noise ratios *(e.g., Fig. 1-3, cl 3, ln 13-33, cl 4, ln 44-46, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, the control processor (52), Maximum Selector (64), Integrator (60), Statistical Power control (54) are connected, the power control generator is connected to the S/I determining to calculate the power control bit signal based on the S/I)*; a communication state monitor circuit coupled to said receivers for detecting quality *[deterioration]* of a communication state of radio communication between said base station and said mobile stations *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67,*

cl 5, ln 1-20, ln 29-33, cl 6, ln 54-67; cl 7, ln 1-17, cl 8, ln 22-44, the control processor (52), Maximum Selector (64), Integrator (60), and the connection made to the CDMA multi-path receiver(s), detecting and evaluating the radio communication quality (Communication monitor) with the mobile stations); and a transmission power bit adjusting circuit coupled to said communication state monitor circuit *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65, Statistical Power Control (adjusting unit) connected to the Communication Monitor to adjust and calculate the communication parameters (determining the state) considering the predetermine values of the communication state parameters)* and said transmission power control bit generators for controlling said transmission power control bit signals so as to suppress an increase of transmission power of said mobile stations when said communication state monitor circuit detects said quality *[deterioration] (e.g., Fig. 1-3, cl 1, ln 62-67, cl 2, ln 53-57, cl 3, ln 1-12, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65, Statistical Power Control (adjusting unit) connected to the Communication Monitor to detect, adjust, calculate power transmission between the base station and mobile, and to eliminate excess power transmission).*

Larijani does not specifically teach the deterioration term, however, Larijani teaches the detecting and measuring the interference *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67 =, cl 7, ln 1-17, cl 8, ln 22-44, cl 9, ln 9-67, cl 11, ln 29-44, the power controller detects the quality of signal by measuring the interference).*

In a related art dealing with mobile communications transmission power control *(see for example Figures 1, 5, 7, 9),* Itoh teaches the quality deterioration *(see for example*

Figures 1, 5, 7, and 9, cl 1, ln 6-11, ln 31-39, cl 2, ln 22-36, cl 4, ln 48-67, the detection of quality degradation (deterioration)).

It would have been obvious to one of ordinary skill in the art at the time invention was made to have included Itoh's deterioration into Larijani's mobile communication power control system to provide the mobile communication system transmission power with "minimize interference between the mobile stations" *(Itoh, cl 1, ln 24-26, cl 9, ln 34-36).*

Regarding claim 14, Larijani a transmission power control system for use in a base station of a mobile communication system *(e.g., Fig. 1-3, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, cl 11, ln 29-44, the communication system with base station and a mobile station)*, said base station including receivers for demodulating transmission signals transmitted from said mobile stations to produce demodulated signals *(see for example, Figure 1, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, the receivers and modulators receiving signals from the mobile stations and outputting modulated signals)*, signal-to-noise ratio determining circuits coupled to said receivers *(see for example, Figure 1, cl 3, ln 13-33, cl 4, ln 44-46, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, the control processor (52), Maximum Selector (64), Integrator (60), Statistical Power control (54) are connected, the received signal is modulated and the signal-to-interference (signal-to-noise) ratio (58) is being determined)*, respectively, for determining signal-to-noise ratios of said demodulated signals and transmission power control bit generators connected to said signal-to-noise ratio determining circuits respectively for generating said transmission power control bit signals based on said

signal-to-noise ratios *(e.g., Fig. 1-3, cl 3, ln 13-33, cl 4, ln 44-46, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, the control processor (52), Maximum Selector (64), Integrator (60), Statistical Power control (54) are connected, the power control generator is connected to the S/I determining to calculate the power control bit signal based on the S/I)*, said transmission power control system comprising: a communication state monitor circuit coupled to said receivers for detecting quality *[deterioration]* of a communication state of radio communication between said base station and said mobile stations *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, ln 29-33, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, the control processor (52), Maximum Selector (64), Integrator (60), and the connection made to the CDMA multi-path receiver(s), detecting and evaluating the radio communication quality (Communication monitor) with the mobile stations)*; and a transmission power bit adjusting circuit coupled to said communication state monitor circuit *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65, Statistical Power Control (adjusting unit) connected to the Communication Monitor to adjust and calculate the communication parameters (determining the state) considering the predetermine values of the communication state parameters)* and said transmission power control bit generators for controlling said transmission power control bit signals so as to suppress an increase of transmission power of said mobile stations when said communication state monitor circuit detects said quality *[deterioration] (e.g., Fig. 1-3, cl 1, ln 62-67, cl 2, ln 53-57, cl 3, ln 1-12, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65, Statistical Power Control (adjusting unit) connected to the Communication Monitor to*

detect, adjust, calculate power transmission between the base station and mobile, and to eliminate excess power transmission).

Larijani does not specifically teach the deterioration term, however, Larijani teaches the detecting and measuring the interference *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67 =, cl 7, ln 1-17, cl 8, ln 22-44, cl 9, ln 9-67, cl 11, ln 29-44, the power controller detects the quality of signal by measuring the interference).*

In a related art dealing with mobile communications transmission power control *(see for example Figures 1, 5, 7, 9),* Itoh teaches the quality deterioration *(see for example Figures 1, 5, 7, and 9, cl 1, ln 6-11, ln 31-39, cl 2, ln 22-36, cl 4, ln 48-67, the detection of quality degradation (deterioration)).*

It would have been obvious to one of ordinary skill in the art at the time invention was made to have included Itoh's deterioration into Larijani's mobile communication power control system to provide the mobile communication system transmission power with "minimize interference between the mobile stations" *(Itoh, cl 1, ln 24-26, cl 9, ln 34-36).*

Regarding claim 22, Larijani discloses a method of controlling transmission power of mobile stations from a base station of a mobile communication system *(e.g., Fig. 1-3, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, cl 11, ln 29-44)*, comprising: monitoring, at said base station *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, the control processor (52), Maximum Selector (64), Integrator (60), Statistical Power control (54), detecting, evaluating and adjusting the radio communication quality (Communication monitor circuit) with the mobile stations),*

a communication state of radio communication between said base station and said mobile stations *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, the control processor (52), Maximum Selector (64), Integrator (60), detecting and evaluating the radio communication quality (Communication monitor) with the mobile stations)*; judging, at said base station, whether said monitored communication state is worse than a predetermined state *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65, cl 9, ln 9-67, cl 11, ln 29-44, Statistical Power Control (adjusting unit) connected to the Communication Monitor to adjust and calculate the communication parameters (determining the state) considering the predetermine values* of the communication state parameters); and notifying, in said base station, an external circuit of said quality *[deterioration]* when said communication state is judged to be worse than said predetermined state *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, cl 9, ln 9-67, cl 11, ln 29-44, the control processor (52), Maximum Selector (64), Integrator (60), Statistical Power control (54), the processor notifying Statistical Power Control (adjusting unit) of detraction of quality and being greater or less than the predetermine values that is worse than the predetermined value).*

Larijani does not specifically teach the deterioration term, however, Larijani teaches the detecting and measuring the interference *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67 =, cl 7, ln 1-17, cl 8, ln 22-44, cl 9, ln 9-67, cl 11, ln 29-44, the power controller detects the quality of signal by measuring the interference).*

In a related art dealing with mobile communications transmission power control *(see*

for example Figures 1, 5, 7, 9), Itoh teaches the quality deterioration *(see for example Figures 1, 5, 7, and 9, cl 1, ln 6-11, ln 31-39, cl 2, ln 22-36, cl 4, ln 48-67, the detection of quality degradation (deterioration)).*

It would have been obvious to one of ordinary skill in the art at the time invention was made to have included Itoh's deterioration into Larijani's mobile communication power control system to provide the mobile communication system transmission power with "minimize interference between the mobile stations" *(Itoh, cl 1, ln 24-26, cl 9, ln 34-36).*

Regarding claim 27, Larijani a method of controlling transmission power of mobile stations of a mobile communication system by use of transmission power control bit signals transmitted from a base station *(e.g., Fig. 1-3, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, cl 11, ln 29-44, the communication system with base station and a mobile station)*, comprising; demodulating transmission signals transmitted from said mobile stations to produce demodulated signals *(see for example, Figure 1, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, the receivers and modulators receiving signals from the mobile stations and outputting modulated signals)*; determining signal-to-noise ratios of said demodulated signals *(see for example, Figure 1, cl 3, ln 13-33, cl 4, ln 44-46, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29)*; generating said transmission power control bit signals on the basis of said signal-to-noise ratios *(e.g., Fig. 1-3, cl 3, ln 13-33, cl 4, ln 44-46, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, the control processor (52), Maximum Selector (64), Integrator (60), Statistical Power control (54) are connected, the power control generator is connected to the S/I determining to*

calculate the power control bit signal based on the S/I); detecting, at said base station, quality *[deterioration]* of a communication state of radio communication between said base station and said mobile stations *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, ln 29-33, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, the control processor (52), Maximum Selector (64), Integrator (60), and the connection made to the CDMA multi-path receiver(s), detecting and evaluating the radio communication quality (Communication monitor) with the mobile stations)*; and controlling, at said based station, said transmission power control bit signals so as to suppress an increase of transmission power of said mobile stations when said quality *[deterioration]* is detected *(e.g., Fig. 1-3, cl 1, ln 62-67, cl 2, ln 53-57, cl 3, ln 1-12, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65, Statistical Power Control (adjusting unit) connected to the Communication Monitor to detect, adjust, calculate power transmission between the base station and mobile, and to eliminate excess power transmission).*

Larijani does not specifically teach the deterioration term, however, Larijani teaches the detecting and measuring the interference *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67 =, cl 7, ln 1-17, cl 8, ln 22-44, cl 9, ln 9-67, cl 11, ln 29-44, the power controller detects the quality of signal by measuring the interference).*

In a related art dealing with mobile communications transmission power control *(see for example Figures 1, 5, 7, 9),* Itoh teaches the quality deterioration *(see for example Figures 1, 5, 7, and 9, cl 1, ln 6-11, ln 31-39, cl 2, ln 22-36, cl 4, ln 48-67, the detection of quality degradation (deterioration)).*

It would have been obvious to one of ordinary skill in the art at the time invention was

made to have included Itoh's deterioration into Larijani's mobile communication power control system to provide the mobile communication system transmission power with "minimize interference between the mobile stations" *(Itoh, cl 1, ln 24-26, cl 9, ln 34-36).*

Regarding claim 35, Larijani discloses a base station in a mobile communication system *(e.g., Fig. 1-3, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, cl 11, ln 29-44, the communication system with base station and a mobile station)* comprising: .a receiver which demodulates transmission signals transmitted from plural mobile stations *(see for example, Figure 1, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, the receivers and modulators receiving signals from the mobile stations and outputting modulated signals)*, a communication state monitor, coupled to said receiver, which detects a *[deterioration]* of a communication state of radio communication between said base station and the plural mobile stations *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, ln 29-33, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, the control processor (52), Maximum Selector (64), Integrator (60), and the connection made to the CDMA multi-path receiver(s), detecting and evaluating the radio communication quality (Communication monitor) with the mobile stations)*; a transmission power control signal adjusting circuit, coupled to said communication state monitor *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65, Statistical Power Control (adjusting unit) connected to the Communication Monitor to adjust and calculate the communication parameters (determining the state) considering the predetermine values of the communication state parameters)*, which controls

transmission power control signals so as to decrease the transmission power of the plural mobile stations if said communication sate monitor detects the *[deterioration] (e.g., Fig. 1-3, cl 1, ln 62-67, cl 2, ln 53-57, cl 3, ln 1-12, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65, Statistical Power Control (adjusting unit) connected to the Communication Monitor to detect, adjust, calculate power transmission between the base station and mobile, and to eliminate excess power transmission)*; and a transmitter *(see for example, Figure 1, transmitter (84))*, coupled to said transmission power control signal adjusting circuit, which transmits the transmission power control signal to the plural mobile stations *(see for example, Figure 1, cl 2, ln 53-57, cl 3, ln 13-33, cl 4, ln 44-46, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, the control processor (52), Maximum Selector (64), Integrator (60), Statistical Power control (54) adjusting power to the mobile stations).*

Larijani does not specifically teach the deterioration term, however, Larijani teaches the detecting and measuring the interference *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67 =, cl 7, ln 1-17, cl 8, ln 22-44, cl 9, ln 9-67, cl 11, ln 29-44, the power controller detects the quality of signal by measuring the interference).*

In a related art dealing with mobile communications transmission power control *(see for example Figures 1, 5, 7, 9),* Itoh teaches the quality deterioration *(see for example Figures 1, 5, 7, and 9, cl 1, ln 6-11, ln 31-39, cl 2, ln 22-36, cl 4, ln 48-67, the detection of quality degradation (deterioration)).*

It would have been obvious to one of ordinary skill in the art at the time invention was made to have included Itoh's deterioration into Larijani's mobile communication power

control system to provide the mobile communication system transmission power with "minimize interference between the mobile stations" *(Itoh, cl 1, ln 24-26, cl 9, ln 34-36).*

Regarding claim 37, Larijani discloses a mobile station among plural mobile stations *(e.g., Fig. 1-3, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, cl 11, ln 29-44, the communication system with base station and a mobile station in a CDMA system (among the plurality of mobiles))*, in a mobile communication system *(e.g., Fig. 1-3, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, the mobile communication)*, comprising; a transmitter which transmits a signal to a base station *(see for example, cl 1, ln 7-23, ln 35-62, cl 2, ln 48-57, cl 4, ln 57-67, cl 5, ln 1, ln 41-44, cl 6, ln 8-13, the mobile station transmitter transmits to base station)*; a receiver which receives *(see for example, cl 1, ln 7-23, ln 35-46, ln 62-67, cl 2, ln 53-57, cl 4, ln 57-67, cl 11, ln 29-44, the mobile station(s) receives transmission power control from the base station*, from the base station, a transmission power control signal directing to decrease a power of the signal to be transmitted to the base station in the case where a *[deterioration]* of a communication sate of radio communication between the base station and the plural mobile stations is detected at the base station *(e.g., Fig. 1-3, cl 1, ln 62-67, cl 2, ln 53-57, cl 3, ln 1-12, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65)*; and a transmission power controller which decides a transmission power of the signal to be transmitted to the base station based on the transmission power control signal *(see for example, Figure 1, cl 2, ln 53-57, cl 3, ln 13-33, cl 4, ln 44-46, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29).*

Larijani does not specifically teach the deterioration term, however, Larijani teaches the detecting and measuring the interference *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67 =, cl 7, ln 1-17, cl 8, ln 22-44, cl 9, ln 9-67, cl 11, ln 29-44, the power controller detects the quality of signal by measuring the interference).*

In a related art dealing with mobile communications transmission power control *(see for example Figures 1, 5, 7, 9),* Itoh teaches the quality deterioration *(see for example Figures 1, 5, 7, and 9, cl 1, ln 6-11, ln 31-39, cl 2, ln 22-36, cl 4, ln 48-67, the detection of quality degradation (deterioration)).*

It would have been obvious to one of ordinary skill in the art at the time invention was made to have included Itoh's deterioration into Larijani's mobile communication power control system to provide the mobile communication system transmission power with "minimize interference between the mobile stations" *(Itoh, cl 1, ln 24-26, cl 9, ln 34-36).*

Regarding claim 39, Larijani discloses a mobile communication system comprising a base station and plural mobile stations *(e.g., Fig. 1-3, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, cl 11, ln 29-44, the communication system with base station and a mobile station in a CDMA system (among the plurality of mobiles))*, wherein said base station comprises: a receiver which demodulates transmission signals transmitted from said plural mobile stations *(see for example, Figure 1, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, the receivers and modulators receiving signals from the mobile stations and outputting modulated signals)*, a communication state monitor, coupled to said receiver, which detects a *[deterioration]* of a communication state of

radio communication between said base station and said plural mobile stations' *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, ln 29-33, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, the control processor (52), Maximum Selector (64), Integrator (60), and the connection made to the CDMA multi-path receiver(s), detecting and evaluating the radio communication quality (Communication monitor) with the mobile stations)*, a transmission power control signal adjusting circuit, coupled to said communication state monitor *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65, Statistical Power Control (adjusting unit) connected to the Communication Monitor to adjust and calculate the communication parameters (determining the state) considering the predetermine values of the communication state parameters)*, which controls transmission power control signals so us to decrease the transmission power of said plural mobile stations if said communication sate monitor detects the *[deterioration] (e.g., Fig. 1-3, cl 1, ln 62-67, cl 2, ln 53-57, cl 3, ln 1-12, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65, Statistical Power Control (adjusting unit) connected to the Communication Monitor to detect, adjust, calculate power transmission between the base station and mobile, and to eliminate excess power transmission)*; and a transmitter *(see for example, Figure 1, transmitter (84))*; and a transmitter *(see for example, Figure 1, transmitter (84))*, coupled to said transmission power control signal adjusting circuit, which transmits the transmission power control signals to the plural mobile stations *(see for example, Figure 1, cl 2, ln 53-57, cl 3, ln 13-33, cl 4, ln 44-46, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, the control processor (52), Maximum Selector (64), Integrator (60), Statistical Power*

control (54) adjusting power to the mobile stations), and each of said mobile stations comprises: a transmitter which transmits a signal to said base station *(see for example, cl 1, ln 7-23, ln 35-62, cl 2, ln 48-57, cl 4, ln 57-67, cl 5, ln 1, ln 41-44, cl 6, ln 8-13, the mobile station(s) transmitters' transmits to the base station)* a receiver which receives one of the transmission power control signals from the base station *(see for example, cl 1, ln 7-23, ln 35-46, ln 62-67, cl 2, ln 53-57, cl 4, ln 57-67, cl 11, ln 29-44, the mobile station(s) receives transmission power control from the base station)*; and a transmission power controller which decides a transmission power of the signal to be transmitted to said base station based on the transmission power control signal received by said receiver *(see for example, cl 1, ln 7-23, ln 35-46, ln 62-67, cl 2, ln 53-57, cl 3, ln 13-33, cl 4, ln 44-46, ln 57-67, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, cl 11, ln 29-44).*

Larijani does not specifically teach the deterioration term, however, Larijani teaches the detecting and measuring the interference *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67 =, cl 7, ln 1-17, cl 8, ln 22-44, cl 9, ln 9-67, cl 11, ln 29-44, the power controller detects the quality of signal by measuring the interference).*

In a related art dealing with mobile communications transmission power control *(see for example Figures 1, 5, 7, 9),* Itoh teaches the quality deterioration *(see for example Figures 1, 5, 7, and 9, cl 1, ln 6-11, ln 31-39, cl 2, ln 22-36, cl 4, ln 48-67, the detection of quality degradation (deterioration)).*

It would have been obvious to one of ordinary skill in the art at the time invention was made to have included Itoh's deterioration into Larijani's mobile communication power control system to provide the mobile communication system transmission power with

"minimize interference between the mobile stations" *(Itoh, cl 1, ln 24-26, cl 9, ln 34-36).*

Regarding claim 40, Larijani discloses a method, for a mobile communication system comprising a base station and plural mobile stations *(e.g., Fig. 1-3, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, cl 11, ln 29-44, the communication system with base station and a mobile station in a CDMA system (among the plurality of mobiles))*, comprising: demodulating transmission signals transmitted from the plural mobile stations; detecting, at the base station *(see for example, Figure 1, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, the receivers and modulators receiving signals from the mobile stations and outputting modulated signals)*, a *[deterioration]* of a communication state of radio communication between said base station and the plural mobile stations *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, ln 29-33, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, the control processor (52), Maximum Selector (64), Integrator (60), and the connection made to the CDMA multi-path receiver(s), detecting and evaluating the radio communication quality (Communication monitor) with the mobile stations)*; controlling, at the base station, power control signals so as to decrease the transmission power of the plural mobile stations if said communication sate monitor detects the *[deterioration] (e.g., Fig. 1-3, cl 1, ln 62-67, cl 2, ln 53-57, cl 3, ln 1-12, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65, Statistical Power Control (adjusting unit) connected to the Communication Monitor to detect, adjust, calculate power transmission between the base station and mobile, and to eliminate excess power transmission)*; and transmitting the transmission power control

signals to the plural mobile stations *(see for example, Figure 1, cl 2, ln 53-57, cl 3, ln 13-33, cl 4, ln 44-46, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, the control processor (52), Maximum Selector (64), Integrator (60), Statistical Power control (54) adjusting power to the mobile stations).*

Larijani does not specifically teach the deterioration term, however, Larijani teaches the detecting and measuring the interference *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67 =, cl 7, ln 1-17, cl 8, ln 22-44, cl 9, ln 9-67, cl 11, ln 29-44, the power controller detects the quality of signal by measuring the interference).*

In a related art dealing with mobile communications transmission power control *(see for example Figures 1, 5, 7, 9),* Itoh teaches the quality deterioration *(see for example Figures 1, 5, 7, and 9, cl 1, ln 6-11, ln 31-39, cl 2, ln 22-36, cl 4, ln 48-67, the detection of quality degradation (deterioration)).*

It would have been obvious to one of ordinary skill in the art at the time invention was made to have included Itoh's deterioration into Larijani's mobile communication power control system to provide the mobile communication system transmission power with "minimize interference between the mobile stations" *(Itoh, cl 1, ln 24-26, cl 9, ln 34-36).*

Regarding claim 41, Larijani discloses a method, for a mobile communication system comprising a base station and plural mobile stations *(e.g., Fig. 1-3, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, cl 11, ln 29-44, the communication system with base station and a mobile station in a CDMA system (among the plurality of mobiles)),* comprising: transmitting a signal to the base station *(see for example, cl 1, ln 7-23, ln 35-*

62, cl 2, ln 48-57, cl 4, ln 57-67, cl 5, ln 1, ln 41-44, cl 6, ln 8-13, the mobile station transmitter transmits to base station), receiving, from the base station *(see for example, cl 1, ln 7-23, ln 35-46, ln 62-67, cl 2, ln 53-57, cl 4, ln 57-67, cl 11, ln 29-44, the mobile station(s) receives transmission power control from the base station*, a transmission power control signal directing to decrease a power of the signal to be transmitted to the base station in the case where a *[deterioration]* of a communication state of radio communication between the base station and the plural mobile stations is detected at the base station *(e.g., Fig. 1-3, cl 1, ln 62-67, cl 2, ln 53-57, cl 3, ln 1-12, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65, Statistical Power Control (adjusting unit) connected to the Communication Monitor to detect, adjust, calculate power transmission between the base station and mobile, and to eliminate excess power transmission)*; and deciding a transmission power of the signal to be transmitted to the base station based on the transmission power control signal *(see for example, Figure 1, cl 2, ln 53-57, cl 3, ln 13-33, cl 4, ln 44-46, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, the control processor (52), Maximum Selector (64), Integrator (60), Statistical Power control (54) adjusting power to the mobile stations).*

Larijani does not specifically teach the deterioration term, however, Larijani teaches the detecting and measuring the interference *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67 =, cl 7, ln 1-17, cl 8, ln 22-44, cl 9, ln 9-67, cl 11, ln 29-44, the power controller detects the quality of signal by measuring the interference).*

In a related art dealing with mobile communications transmission power control *(see for example Figures 1, 5, 7, 9),* Itoh teaches the quality deterioration *(see for example*

Figures 1, 5, 7, and 9, cl 1, ln 6-11, ln 31-39, cl 2, ln 22-36, cl 4, ln 48-67, the detection of quality degradation (deterioration)).

It would have been obvious to one of ordinary skill in the art at the time invention was made to have included Itoh's deterioration into Larijani's mobile communication power control system to provide the mobile communication system transmission power with "minimize interference between the mobile stations" *(Itoh, cl 1, ln 24-26, cl 9, ln 34-36).*

Regarding claim 42, Larijani discloses a method for a mobile communication system, comprising a base station and plural mobile stations *(e.g., Fig. 1-3, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, cl 11, ln 29-44, the communication system with base station and a mobile station in a CDMA system (among the plurality of mobiles))*, comprising; demodulating transmission signals transmitted from the plural mobile stations; detecting, at the base station *(see for example, Figure 1, cl 1, ln 7-11, ln 35-67, cl 4, ln 44-46, ln 66-67, cl 5, ln 1-20, the receivers and modulators receiving signals from the mobile stations and outputting modulated signals)*, a *[deterioration]* of a communication state of radio communication between-said base station and the plural mobile stations *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, ln 29-33, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, the control processor (52), Maximum Selector (64), Integrator (60), and the connection made to the CDMA multi-path receiver(s), detecting and evaluating the radio communication quality (Communication monitor) with the mobile stations)*; controlling, at the base station, transmission power control signals so ms to decrease the transmission power of the plural mobile stations if said communication

sate monitor detects the *[deterioration] (e.g., Fig. 1-3, cl 1, ln 62-67, cl 2, ln 53-57, cl 3, ln 1-12, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65, Statistical Power Control (adjusting unit) connected to the Communication Monitor to detect, adjust, calculate power transmission between the base station and mobile, and to eliminate excess power transmission)*; transmitting the transmission power control signals to the plural mobile stations *(see for example, Figure 1, cl 2, ln 53-57, cl 3, ln 13-33, cl 4, ln 44-46, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, the control processor (52), Maximum Selector (64), Integrator (60), Statistical Power control (54) adjusting power to the mobile stations)*; transmitting a signal to the base station; receiving one of the transmission power control signals form the base station *(see for example, cl 1, ln 7-23, ln 35-46, ln 62-67, cl 2, ln 53-57, cl 4, ln 57-67, cl 11, ln 29-44, the mobile station(s) receives transmission power control from the base station)*; and deciding a transmission power of the signal to be transmitted to the base station based on the transmission power control signal received *(see for example, cl 1, ln 7-23, ln 35-46, ln 62-67, cl 2, ln 53-57, cl 3, ln 13-33, cl 4, ln 44-46, ln 57-67, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, cl 11, ln 29-44)*.

Larijani does not specifically teach the deterioration term, however, Larijani teaches the detecting and measuring the interference *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67 =, cl 7, ln 1-17, cl 8, ln 22-44, cl 9, ln 9-67, cl 11, ln 29-44, the power controller detects the quality of signal by measuring the interference)*.

In a related art dealing with mobile communications transmission power control *(see for example Figures 1, 5, 7, 9),* Itoh teaches the quality deterioration *(see for example*

Figures 1, 5, 7, and 9, cl 1, ln 6-11, ln 31-39, cl 2, ln 22-36, cl 4, ln 48-67, the detection of quality degradation (deterioration)).

It would have been obvious to one of ordinary skill in the art at the time invention was made to have included Itoh's deterioration into Larijani's mobile communication power control system to provide the mobile communication system transmission power with "minimize interference between the mobile stations" *(Itoh, cl 1, ln 24-26, cl 9, ln 34-36).*

Regarding claims 2 and 18, Larijani in view of Itoh teach all the imitations in claims 1, 14, and further, Larijani teaches wherein: said monitor unit is coupled to said receivers for monitoring total interference electric power of said demodulated signals as said communication state *(see for example cl 1, ln 62-67, cl 2, ln 1-7, cl 3, ln 60-65, cl 4, ln 27-37, cl 9, ln 43-46)*, and said adjusting circuit judging that said communication state is worse than said predetermined state when said total interference electric power is equal to or larger than a predetermined threshold *(see for example, cl 1, ln 7-23, ln 35-46, ln 62-67, cl 2, ln 53-57, cl 3, ln 13-33, cl 4, ln 44-46, ln 57-67, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, cl 9, ln 9-67, cl 11, ln 29-44).*

Regarding claims 3, 11 and 19, Larijani in view of Itoh teach all the imitations in claims 1, 6, 14, and further, Larijani teaches wherein: said monitor unit coupled to said signal-to-noise ratio determining circuits monitors said signal-to-noise ratios as said communication state *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, ln 29-33, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, the control processor (52), Maximum Selector (64),*

Integrator (60), and the connection made to the CDMA multi-path receiver(s), detecting and evaluating the radio communication quality (Communication monitor) with the mobile stations), and said adjusting unit judges that said communication state is worse than said predetermined state when the number of signal-to-noise*(see for example, cl 1, ln 7-23, ln 35-46, ln 62-67, cl 2, ln 53-57, cl 3, ln 13-33, cl 4, ln 44-46, ln 57-67, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, cl 9, ln 9-67, cl 11, ln 29-44)*, ratios each of which is smaller than a predetermined value, is equal to or larger than a predetermined threshold *(see for example, cl 1, ln 7-23, ln 35-46, ln 62-67, cl 2, ln 53-57, cl 3, ln 13-33, cl 4, ln 44-46, ln 57-67, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, cl 9, ln 9-67, cl 11, ln 29-44).*

Regarding claim 4, 12, and 20, Larijani in view of Itoh teach all the imitations in claims 1, 6, 14, and further, Larijani teaches signal-to-noise ratio determining circuits coupled to said receivers respectively for determining signal-to-noise ratios of said demodulated signals and transmission power control bit generators coupled to said signal-to-noise ratio determining circuits respectively for generating transmission power control bit signals on the basis of said signal-to-noise ratios *(e.g., Fig. 1-3, cl 3, ln 13-33, cl 4, ln 44-46, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, the control processor (52), Maximum Selector (64), Integrator (60), Statistical Power control (54) are connected, the power control generator is connected to the S/I determining to calculate the power control bit signal based on the S/I)*, wherein: said monitor unit, coupled to said transmission power control bit generators, monitors said transmission power control bit signals as said communication state *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20,*

ln 29-33, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, the control processor (52), Maximum Selector (64), Integrator (60), and the connection made to the CDMA multi-path receiver(s), detecting and evaluating the radio communication quality (Communication monitor) with the mobile stations); and said adjusting unit judges that said communication state is worse than said predetermined state when the number of said transmission power control bit signals each of which require increase of transmission power is equal to or larger than a predetermined threshold *(see for example, cl 1, ln 7-23, ln 35-46, ln 62-67, cl 2, ln 53-57, cl 3, ln 13-33, cl 4, ln 44-46, ln 57-67, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, cl 9, ln 9-67, cl 11, ln 29-44).*

Regarding claim 5, 13, and 21, Larijani in view of Itoh teach all the imitations in claims 1, 6, 14, and further, Larijani teaches wherein: said monitor unit, coupled to said receivers, monitors total interference electric power of said demodulated signals *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, ln 29-33, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, the control processor (52), Maximum Selector (64), Integrator (60), and the connection made to the CDMA multi-path receiver(s), detecting and evaluating the radio communication quality (Communication monitor) with the mobile stations)* and the number of said mobile terminals communicating with said base station as said communication state *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, ln 29-33, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, the control processor (52), Maximum Selector (64), Integrator (60), and the connection made to the CDMA multi-path receiver(s), detecting and evaluating the radio communication quality (Communication monitor) with the*

mobile stations); and said adjusting unit judges that said communication state is worse than said predetermined state when a changing rate of a ratio of said total interference electric power to the number of said mobile terminals communicating with said base station is equal to or larger than a predetermined threshold *(see for example, cl 1, ln 7-23, ln 35-46, ln 62-67, cl 2, ln 53-57, cl 3, ln 13-33, cl 4, ln 44-46, ln 57-67, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, cl 9, ln 9-67, cl 11, ln 29-44).*

Regarding claim 7 and 15, Larijani in view of Itoh teach all the imitations in claims 6, 14, and further, Larijani teaches wherein said transmission power control bit generators generate the transmission power control bit signals which requires increase of transmission power of said mobile stations when signal-to-noise ratios are equal to or lower than a desired value *(e.g., Fig. 1-3, cl 9, ln 9-67, cl 10, ln 1-41)*; and said transmission power control bit adjusting circuit decreases said desired value to suppress an increase of transmission power of said mobile stations when said communication state monitor circuit detects said quality deterioration *(e.g., Fig. 1-3, cl 1, ln 62-67, cl 2, ln 53-57, cl 3, ln 1-12, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65, Statistical Power Control (adjusting unit) connected to the Communication Monitor to detect, adjust, calculate power transmission between the base station and mobile, and to eliminate excess power transmission).*

Regarding claims 8 and 29, Larijani in view of Itoh teach all the imitations in claims 6, 27, and further, Larijani teaches wherein: said transmission power control bit adjusting

circuit changes said transmission power control bit signals so that said transmission power control bit signals a require decrease of said transmission power of said mobile stations *(e.g., Fig. 1-3, cl 1, ln 62-67, cl 2, ln 53-57, cl 3, ln 1-12, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65).*

Regarding claims 9 and 30, Larijani in view of Itoh teach all the imitations in claims 6, 27, and further, Larijani teaches wherein said communication state monitor circuit comprises: a monitor unit for monitoring said communication state of said radio communication *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, the control processor (52), Maximum Selector (64), Integrator (60), detecting and evaluating the radio communication quality (Communication monitor) with the mobile stations)*, a adjusting unit coupled to said monitor unit for judging whether said communication state monitored by said monitor unit is worse than a predetermined state *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65, cl 9, ln 9-67, cl 11, ln 29-44, Statistical Power Control (adjusting unit) connected to the Communication Monitor to adjust and calculate the communication parameters (determining the state) considering the predetermine values of the communication state parameters)*, and a notifying unit coupled to said adjusting circuit for notifying said transmission power control bit adjusting circuit of said quality deterioration when said adjusting circuit judges that said communication state is worse than said predetermined state *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, cl 9, ln 9-67, cl 11, ln 29-44, the control processor*

(52), Maximum Selector (64), Integrator (60), Statistical Power control (54), the processor notifying Statistical Power Control (adjusting unit) of detraction of quality and being greater or less than the predetermine values that is deteriorated (worse) than the predetermined value).

Regarding claim 10, Larijani in view of Itoh teach all the imitations in claim 6, and further, Larijani teaches wherein: said communication state monitor circuit coupled to said signal-to-noise ratio determining circuits monitors said signal-to-noise ratios as said communication state *(see for example, Figure 1, cl 3, ln 13-33, cl 4, ln 44-46, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29)*; and judges that said communication state is worse than said predetermined state when the number of signal-to-noise ratios each of which is smaller than a predetermined value, is equal to or larger than a predetermined threshold *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, cl 9, ln 9-67, cl 11, ln 29-44, the control processor (52), Maximum Selector (64), Integrator (60), Statistical Power control (54), the processor notifying Statistical Power Control (adjusting unit) of detraction of quality and being greater or less than the predetermine values that is deteriorated (worse) than the predetermined value)..*

Regarding claims 23, 28, and 31, Larijani in view of Itoh teach all the imitations in claims 22, 27, and further, Larijani teaches wherein: total interference electric power of said demodulated signals is monitored as said communication state *(see for example cl 1, ln 62-67, cl 2, ln 1-7, cl 3, ln 60-65, cl 4, ln 27-37, cl 9, ln 43-46)*; and said

communication state is judged to be worse than said predetermined state when said total interference electric power is equal to or larger than a predetermined threshold *(see for example, cl 1, ln 7-23, ln 35-46, ln 62-67, cl 2, ln 53-57, cl 3, ln 13-33, cl 4, ln 44-46, ln 57-67, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, cl 9, ln 9-67, cl 11, ln 29-44).*

Regarding claims 24 and 32, Larijani in view of Itoh teach all the imitations in claims 22, 27, and further, Larijani teaches wherein: said monitoring periodically monitors an average of said signal-to-noise ratios as said communication state *(see for example, cl 3, ln 26-53, cl 4, ln 22-37, cl 8, ln 11-21, ln 44-57)*; and said communication state is judged to be worse than said predetermined state when the number of signal-to-noise ratios, each of which is smaller than a predetermined value, is equal to larger than a predetermined threshold *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, cl 9, ln 9-67, cl 11, ln 29-44, the control processor (52), Maximum Selector (64), Integrator (60), Statistical Power control (54), the processor notifying Statistical Power Control (adjusting unit) of detraction of quality and being greater or less than the predetermine values that is deteriorated (worse) than the predetermined value).*

Regarding claims 25 and 33, Larijani in view of Itoh teach all the imitations in claims 22, 27, and further, Larijani teaches determining signal-to-noise ratios of said demodulated signals *(see for example, Figure 1, cl 3, ln 13-33, cl 4, ln 44-46, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29)* and generating transmission power control bit signals on the basis of said signal-to-noise ratios, wherein: said transmission power control bit

signals are monitored as said communication state *(e.g., Fig. 1-3, cl 3, ln 13-33, cl 4, ln 44-46, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29)*; and said communication state is judged to be worse than said predetermine state when the number of said transmission power control bit signals *(see for example, cl 1, ln 7-23, ln 35-46, ln 62-67, cl 2, ln 53-57, cl 3, ln 13-33, cl 4, ln 44-46, ln 57-67, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29, cl 9, ln 9-67, cl 11, ln 29-44)*, each of which require increase of transmission power, is equal to or larger than a predetermined threshold *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, cl 9, ln 9-67, cl 11, ln 29-44, the control processor (52), Maximum Selector (64), Integrator (60), Statistical Power control (54), the processor notifying Statistical Power Control (adjusting unit) of detraction of quality and being greater or less than the predetermine values that is deteriorated (worse) than the predetermined value)*.

Regarding claims 26 and 34, Larijani in view of Itoh teach all the imitations in claims 22, 27, and further, Larijani teaches wherein: total interference electric power of said demodulated signals and the number of said mobile terminals communicating with said base station are monitored as said communication state*(see for example cl 1, ln 62-67, cl 2, ln 1-7, cl 3, ln 60-65, cl 4, ln 27-37, cl 9, ln 43-46)*; and said communication state is judged to be worse than said predetermined state when a changing rate of a ratio of said total interference electric power to the number of said mobile terminals communicating with said base station is equal to or larger than a predetermined threshold *(e.g., Fig. 1-3, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-67, cl 7, ln 1-17, cl 8, ln 22-44, cl 9, ln 9-*

67, cl 11, ln 29-44).

Regarding claim 36, Larijani in view of Itoh teach all the imitations in claim 35, and further, Larijani teaches wherein, said communication sate monitor monitors an interference power of the transmission signal received by said receiver *(e.g., Fig. 1-3, cl 1, ln 62-67, cl 2, ln 53-57, cl 3, ln 1-12, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65)*, and detects the deterioration of the communication sate based on the interference power *(see for example, Figure 1, cl 3, ln 13-33, cl 4, ln 44-46, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29).*

Regarding claim 38, Larijani in view of Itoh teach all the imitations in claim 37, and further, Larijani teaches wherein, the deterioration of the communication sate is detected based on an interference power of transmission signals *(e.g., Fig. 1-3, cl 1, ln 62-67, cl 2, ln 53-57, cl 3, ln 1-12, cl 4, ln 44-53, ln 66-67, cl 5, ln 1-20, cl 6, ln 54-65, cl 7, ln 7-9, cl 8, ln 15-29, ln 58-65)*, from the plural mobile stations, received by the base station *(see for example, Figure 1, cl 3, ln 13-33, cl 4, ln 44-46, cl 6, ln 66-67, cl 7, ln 1-17, cl 8, ln 15-29).*

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shaima Q. Aminzay whose telephone number is 571-272-7874. The examiner can normally be reached on 7:00 AM -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mathew D. Anderson can be reached on 571-272-4177. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shaima Q. Aminzay
(Examiner)

MATTHEW ANDERSON
SUPERVISORY PATENT EXAMINER

September 30, 2007